

PATENT-boraglas GmbH

40200-10048

PATENT CLAIMS

1. A coating composition, in particular for a laser-supported treatment of glass surfaces, comprising at least one silver compound which is soluble in an aqueous solvent and/or organic solvent and comprising at least one binder.
2. The coating composition according to Claim 1, comprising at least one additional metal compound.
3. The coating composition according to Claim 2, wherein the additional metal compound comprises a zirconium compound.
4. The coating composition according to one of the preceding claims, wherein the at least one binder comprises natural and/or synthetic polymers.
5. The coating composition according to one of the preceding claims, comprising at least one additional substance with which the viscosity, the volume, the drying rate and rate of evaporation, the wettability and/or the stability of the coating composition is/are influenceable.
6. The coating composition according to one of the preceding claims, comprising at least one reducing agent with which metal ions of the at least one silver compound or the additional metal compound are reducible.
7. The coating composition according to Claim 6, wherein the at least one reducing agent comprises copper(I) systems and/or tin(II) systems and/or iron(II) systems and/or lead(II) systems and/or cobalt(II) systems and/or titanium(II) systems and/or complex systems

such as iridium(II) hexachloride and/or cyanoferrates(II).

8. The coating composition according to one of the preceding claims, comprising dyes and/or pigments as additives.
9. The coating composition according to one of the preceding claims, comprising adhesion-improving agents and/or wetting agents as additives.
10. The coating composition according to one of the preceding claims, having a silver compound/binder weight ratio in the range of 0.05 to 8000.
11. The coating composition according to Claim 10, wherein the silver compound/binder weight ratio is in the range of 1 to 4000.
12. A method for laser-supported treatment of a glass surface, comprising the steps:
 - coating the glass surface with a coating composition according to one of the preceding claims, and
 - treating the coated glass surface with laser radiation according to a predetermined laser treatment pattern consisting of irradiated and non-irradiated regions such that silver ions diffuse into the glass surface in the irradiated regions.
13. The method according to Claim 12, wherein the coating of the glass surface comprises application of the coating composition in a dissolved liquid state.

14. The method according to Claim 13, wherein the application of the coating composition comprises spraying, casting, rolling or doctor application.
15. The method according to Claim 12, wherein the coating of the glass surface comprises application of the coating composition in a solid layer state.
16. The method according to Claim 15, wherein the application of the coating composition comprises adhesion of a self-supporting film of the coating composition to the glass surface.
17. The method according to Claim 15, wherein application of the coating composition comprises adhesion of a composite of the coating composition and a carrier film to the glass surface.
18. The method according to Claim 17, wherein the carrier film is removed from the glass surface after the irradiation.
19. The method for producing a coating composition according to any one of the preceding claims, comprising the steps:
 - preparing a mixture of a first solution of the at least one silver compound in an aqueous and/or organic solvent and a second solution of the at least one binder in an aqueous and/or organic solvent,
 - coating a carrier surface with the mixture, and
 - removal of the solvent.
20. The method according to Claim 19, wherein the coating comprises application to a glass surface to be treated or application to a carrier film.